

215.03 COMPOSITE PAVEMENTS

Section 215.03(D)1: replace “places” with “puts”. Replace “by means of” with “with”.

Section 215.03(D)2: remove “in place”.

Section 215.03(D)2: rephrase for clarity from: “In this event, the site must be permanently restored no later than April 15 following the winter months during which the measures were taken, and in the manner described in 215.03E” to: In this event, the Site must be permanently restored no later than April 15 following the winter months during which the measures were taken, and in the manner described in 215.03(E).

215.04 PCC PAVEMENTS

Section 215.04(B.), insert “Tie rods shall be placed in the concrete at approximately half the depth of the repair and shall be embedded half the length of the rod as per Section 505.04(C). Tie rods for this purpose shall meet the requirements of 807.04 except that a length of only 20 inches will be required.”

215.06 CROSSWALKS AND SIDEWALKS

Section 215.06(A), rephrase for clarity from: “If a utility cut intersects one or more crosswalks with any material other than that of the surrounding roadway, it must be permanently restored to its original condition, and the materials used shall be identical to those of the original crosswalk.” to: If a utility cut intersects one (1) or more crosswalk(s) with any material other than that of the surrounding roadway, it must be permanently restored to its original condition, and the materials used shall be identical to those of the original crosswalk(s).

215.07 PAVEMENT MARKINGS

Section 215.07, insert “per DDOT Standard Drawings. A crosswalk and stop bar must be replaced in its entirety.”

801.01 PORTLAND CEMENT

Section 801.01(A) delete “the alkaline content of the Portland Cement shall not exceed 0.60 percent as described in optional requirements of AASHTO M 85.”

Section 801.01(A) insert “refer to Section 817.03.C.”

803.01 FINE AGGREGATE FOR PORTLAND CEMENT CONCRETE

Section 803.01 delete “AASHTO M 6. Fine aggregate capable of producing a deleterious reaction when combined with Portland Cement shall not be used in Portland Cement Concrete.”

Section 803.01 insert “Section 817.03.C.”

803.02 COARSE AGGREGATE FOR PORTLAND CEMENT CONCRETE

Section 803.02 delete “test specimen shall not exceed 0.08 percent expansion after sixteen (16) days in accordance with ASTM C 1260 and ASTM C 1567.”

Section 803.02 insert “refer to Section 817.03.C.”

817.03 DESIGN CRITERIA

Section 817.03(C) delete “Fine and coarse aggregates for use in concrete that will be subject to wetting, extended exposure to humid atmospheric conditions or contact with moist ground shall not contain any material that is deleteriously reactive with alkalis in the cement in an amount sufficient to cause excessive expansion of mortar or concrete, except that if such materials are present in injurious amounts, the fine and coarse aggregates may be used with a cement containing less than 0.6 percent alkalis calculated as sodium oxide or with the addition of a material that has been shown to prevent harmful expansion due to the alkali-aggregate reaction.

When the concrete will be subjected to external sources of alkalis and/or chlorides, the aggregates used shall not contain more than 3 percent reactive constituents as defined by ASTM C 295, and pass at least one of the following criteria as may be applicable in accordance with ASTM C 1260 and C 1567.”

Section 817.03(C) insert “Preventive Measures for Aggregate Alkali-Silica Reactivity (ASR). All aggregate, both coarse and fine, intended for use in concrete shall be tested for ASR in accordance with C 1260. Testing shall be performed by an accredited laboratory. Coarse and fine aggregate from the same source shall be tested separately. Testing shall be performed once every 3 years.

The following limitations apply for C 1260 results:

EXPANSION @ 14 DAYS	CLASS AND REACTIVITY STATUS	MITIGATION NOTE
≤0.10%	RO – Innocuous	No mitigation required
>0.10 but ≤0.20%	R1 – Potentially Reactive	Mitigation Required*
>0.20 but ≤0.30%	R2 – Reactive	Mitigation Required*
.0.30%	Highly Reactive	Shall not be used in PCC

*See Table 817.03.C for the minimum Supplementary Cementitious Material (SCM) replacement levels for ASR mitigation

Optional C 1293 Concrete Prism Testing. Testing in accordance with C 1293 is non mandatory but recommended. The test may be used to verify the ASR class status of aggregate having C 1260 result greater than 0.10 percent expansion. If C 1293 testing is not performed, then compliance is assessed based entirely on the C 1260 result.

The requirements for compliance when using C 1293 are as follows,

- (a) Test frequency is once every 3 years.
- (b) The Administration will not perform this test. Testing must be performed by an accredited laboratory.
- (c) Coarse and Fine aggregate from the same source shall be tested separately.
- (d) Each sample shall be split and tested in accordance with both C 1260 and C 1293. This is required to provide comparable data for future reference. Scheduling of the testing is at the producer’s discretion, but both results must be submitted together for approval review.
- (e) The C 1293 result will supersede the C 1260 result for compliance status.

The following limitations apply for C 1293 results:

EXPANSION AT 1 YEAR	CLASS AND REACTIVITY STATUS	MITIGATION NOTE
≤0.04%	RO – Innocuous	No mitigation required
>0.04 but ≤0.12%	R1 – Potentially Reactive	Mitigation Required*
>0.12 but ≤0.24%	R2 – Reactive	Mitigation Required* No structural uses allowed.
.0.24%	Highly Reactive	Shall not be used in PCC

*See Table 817.03.C for the minimum Supplementary Cementitious Material (SCM) replacement levels for ASR mitigation

TABLE 817.03.C

SCM Type	Low Alkali Cement (≤0.7% Na ₂ O equiv.) R1	Normal Alkali Cement (0.7% to 1.0% Na ₂ O equiv.) R1	Low to Normal Alkali Cement (≤0.1% Na ₂ O equiv.) R2
Class F Fly Ash	25%	25%	25%
Slag (GGBFS)	35%	50%	50%
Ternary Blends	Approval Required	Approval Required	Approval Required

Ternary blends using two SCM’s will require C 1567 testing by an accredited laboratory. The expansion test results shall not be greater than 0.10 percent to be considered acceptable. Changes to the SCM blend percentages will require retesting.”